Add Condition Status to Condition_Occurrence

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Owner

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Details

Background

Condition status reflects point of care at which the condition was diagnosed: Admitting, Preliminary, Discharge/Final. Presently, Condition status is stored in the Observation table and linked to Condition_Occurrence table via Fact_Relationship.

Proposed Change

Move condition status from Observation to Condition_Occurence table as a first class attribute. This change will eliminate the need to join Condition_Occurrence, Observation, and Fact_Relationship tables to link condition and condition status. It will also significantly simplify ETL and DQA from the source by targeting only one table rather than splitting attributes related to a condition to three tables.

Add the following condition status fields to Condition_Occurrence table:

Field	Type	Required	Description
condition_status_concept_id	Integer	No	A foreign key to the predefined concept in the standard vocabulary reflecting the condition status.
condition_status_source_value	Varchar(50)	No	The source code for the condition status as it appears in the source data.

Presently, there is no designated vocabulary, domain, or class that represents condition status. The following concepts from SNOMED are recommended:

Admitting diagnosis: 4203942
Final diagnosis: 4230359 – should also be used for 'Discharge diagnosis'
Preliminary diagnosis: 4033240

These concepts can be grouped into a new designated class "Condition status".

Use cases, analytical questions
Diagnosis discrepancy on admission may be a marker of diagnosis uncertainty or poor patient assessment/documentation. Research is needed to understand the underlying reasons for this discrepancy and its association with LOS, and, potentially, clinical outcomes. [1]

Admitting and discharge diagnoses may differ as a result of patient complexity, diagnostic dilemmas, or errors in clinical judgment at the time of primary assessment. When diagnoses at admission and discharge are not in agreement, this discrepancy may indicate more complex processes of care and resultant costs. Diagnosis discrepancy maybe associated with hospital quality outcome measures. [2]

Importance, also with respect to other projects
This change is an important enhancement to the model and can be implemented immediately without impacting other projects.

This change will have an immediate effect on three OMOP-based CDRNs: NYC-CDRN representing over 2.5 million patients; pSCANNER covering over 21 million patients; and PEDSnet which includes eight of the nation's largest children's hospitals and provides service to 4.6 million children per year.

Consequences of doing it and not doing it including technical (e.g. implications on vocab, existing software), resources

This change will enhance representation and analysis of condition status in OMOP CDM and simplify ETL for the sites that are presently using Observation and Fact_Relationship tables.

It will have no implications on vocabulary or existing software.

References

1. Tricia Johnson, ea. Discrepancy between admission and discharge diagnoses as a predictor of hospital length of stay. Journal of Hospital Medicine. Apr 22, 2009.
2. McNutt R, ea. Cost and quality implications of discrepancies between admitting and discharge diagnoses. Qual Manag Health Care. 2012 Oct-Dec